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EXAMINER
HO, CHUONG T

ART UNIT	PAPER NUMBER
2664	

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Please find below and/or attached an Office communication concerning this application or proceeding.

aa

Office Action Summary	Application No.	Applicant(s)	
	09/354,640	GAN ET AL.	
	Examiner	**Art Unit**	
	CHUONG T. HO	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 25 October 2005.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-4,6,8-21 and 24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-4,6,8-21 and 24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/20/1999.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1. The amendment filed 10/25/05 have been entered and made of record.

2. Applicant's arguments filed 10/25/05 have been fully considered but they are not persuasive.

In the page 3, lines 1-3, the applicant alleged that HASKIN et al., and MCALLISTER et al. do not discloses or suggest a plurality of nodes including at least one alternative-route-enabled node and at least one non-alternative-route-enable node.

The Applicant's argument is not persuasive.

See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the

next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)). Clearly, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node and at least one non-alternative-route-enable node.

In the page 6, lines 1-3, the applicant alleged that MCALLISTER et al. do not discloses or suggest that a non-alternative-route-enabled node that includes a storage space to store an initial route from a source device to a destination device.

The applicant's argument is not persuasive.

MCALLISTER et al. discloses or suggests a non-alternative-route-enabled node (32A, 32B, 32C, 32D, 32E, 32F, 32G) that includes a storage space to store an initial route from a source device (20A) to a destination device (20B) (see col. 45-57, adjacent network elements of the source network element, the destination network element and the each network element (32A, 32B, 32C, 32D, 32E, 32F, 32G) therebetween which is located along network path element that define the connection may automatically select any available link in the event the preferred routing indication does not identify a link to be used therebetween....The re-routing indication may include at least one alternate path indication each defining at least one network path element of the connection located between the source network element and the destination network element, the alternate path indication not being identical to the preferred routing indication).

Therefore, MCALLISTER et al. discloses or suggests that a non-alternative-route-enabled node (the each network element (32A, 32B, 32C, 32D, 32E, 32F, 32G)) that

includes a storage space to store an initial route from a source device to a destination device.

3. Claims 1-4, 6, 8-21, 24 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2-4, 6, 8, 9, 11-12, 14, 18, 21, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haskin et al. (U.S.Patent No. 6,813,242) in view of McAllister et al. (U.S.Patent No. 6,697,329 B1).

In the claim 1, see figures 2, 3, Haskin et al. discloses a network system including of network element including a plurality of nodes (switches 1-7) and connecting links, the plurality of nodes including at least one alternative-route-enabled node (switch 1) and at least one non-alternative-route-enabled node (switch 3 or 5), wherein the at least one-non-alternative-route-enabled node (switch 3 or 5) comprises: a mechanism to detect failure in a downstream network element in the initial route; and a forwarding to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node (switch 1), the failure message causing the

alternative-route-enabled node (switch 1) to begin forwarding packets on an alternative route (see col. 3, lines 20-22, col. 4, lines 35-40, col. 2, lines 35-45).

However, Haskin et al. is silent to disclosing a network for forwarding packets from a source device to a destination device.

See figure 2B, col. 7, lines 40-53, col. 9, lines 30-45, lines 10-13, col. 7, lines 40-53, col. 13, lines 35-67, McAllister et al. discloses in the first case, for example, that the CAC processing of an intermediate node in the primary path of the the ODR SPVC reports insufficient node resources to progress the ODR SPVC through the intermediate node or a specified link thereon in which case the primary path is block. In such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node, such as a DTL-creative node (which is node 32A in the reference network), in order to compute another path to an SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node which detects the block. This node sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node over the signaling network. The protocol allows a DTL-original node, such as the source node 32A, which receives this message to re-route the connection using a different path (see col. 9, lines 30-45); comprising:

- See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback

procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)).

- A network , figure 2B, for forwarding packets from a source device (20A) to a destination device (20B), network including a plurality of network element (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) including a plurality of nodes and connecting link, the plurality of nodes including at least one alternative-route-enable node (32A) and at least one non-alternative-route-enable node (32B),

wherein the at least one non-alternative-route-enable node (32) comprises:

- A storage space to store an initial route from the source device to the destination device (MCALLISTER et al. discloses or suggests a non-alternative-route-

enabled node (32A, 32B, 32C, 32D, 32E, 32F, 32G) that includes a storage space to store an initial route from a source device (20A) to a destination device (20B) (see col. 45-57, adjacent network elements of the source network element, the destination network element and the each network element (32A, 32B, 32C, 32D, 32E, 32F, 32G) therebetween which is located along network path element that define the connection may automatically select any available link in the event the preferred routing indication does not identify a link to be used therebetween....The re-routing indication may include at least one alternate path indication each defining at least one network path element of the connection located between the source network element and the destination network element, the alternate path indication not being identical to the preferred routing indication));

- A mechanism to detect failure in a downstream network element in the initial route (see col. 9, lines 30-45).

Both McAllister and Haskin discloses a system of fast alternative-path automatic rerouting of labeled data packets normally routed over a predetermined primary label switched path upon failure. McAllister recognizes a network for forwarding packets from a source device to a destination device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Haskin with the teaching of McAllister to provide a network for forwarding packets from a source device to a destination device in order to reduce the probability of packet loss in a network.

5. In the claim 8, Haskin et al. discloses a network system including of network element including a plurality of nodes (switches 1-7) and connecting links, the plurality of nodes including at least one alternative-route-enabled node (switch 1) and at least one non-alternative-route-enabled node (switch 3 or 5), wherein the at least one-non-alternative-route-enabled node (switch 3 or 5) comprises: a mechanism to detect failure in a downstream network element in the initial route; and a forwarding to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node (switch 1), the failure message causing the alternative-route-enabled node (switch 1) to begin forwarding packets on an alternative route (see col. 3, lines 20-22, col. 4, lines 35-40, col. 2, lines 35-45).

However, Haskin et al. is silent to disclosing a network for forwarding packets from a source device to a destination device.

See figure 2B, col. 7, lines 40-53, col. 9, lines 30-45, lines 10-13, col. 7, lines 40-53, col. 13, lines 35-67, McAllister et al. discloses in the first case, for example, that the CAC processing of an intermediate node in the primary path of the the ODR SPVC reports insufficient node resources to progress the ODR SPVC through the intermediate node or a specified link thereon in which case the primary path is block. In such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node, such as a DTL-creative node (which is node 32A in the reference network), in order to compute another path to an SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node which detects the block. This node sends a

signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node over the signaling network. The protocol allows a DTL-original node, such as the source node 32A, which receives this message to re-route the connection using a different path (see col. 9, lines 30-45); comprising:

- See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)).

- See figure 2B, a system for forwarding packets from a source device (20A) to a destination device (20B) in a network of interconnected elements including nodes (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) and links (34, 48, 49);
- determining an initial route (primary path), the initial route including at least one alternative-route enabled node (46) and at least one non-alternative-route-enabled node (32), the at least one alternative-route-enabled node (46) and the at least one non-alternative-route-enabled node (32) storing an initial route from the source device (20A) to the destination device (20B) (see figure 5, col. 35-67);
- determining an alternative route by identifying the at least one alternative-route-enabled node (46) in the initial route (primary path), identifying downstream interconnected elements (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46), and generating the alternative route based on the identified at least one alternative-route-enabled node (46) and the identified downstream interconnected elements (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) (see col. 14, lines 8-15, col. 7, lines 40-53);
- forwarding packets on the initial route (primary path) (see col. 7, lines 53);
- detecting a failed element (see col. 9, lines 30-45);

Both McAllister and Haskin discloses a system of fast alternative-path automatic rerouting of labeled data packets normally routed over a predetermined primary label switched path upon failure. McAllister recognizes a network for forwarding packets from a source device to a destination device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Haskin with

the teaching of McAllister to provide a network for forwarding packets from a source device to a destination device in order to reduce the probability of packet loss in a network.

6. In the claim 14, see figures 2, 3, Haskin et al. discloses a network system including of network element including a plurality of nodes (switches 1-7) and connecting links, the plurality of nodes including at least one alternative-route-enabled node (switch 1) and at least one non-alternative-route-enabled node (switch 3 or 5), wherein the at least one-non-alternative-route-enabled node (switch 3 or 5) comprises: a mechanism to detect failure in a downstream network element in the initial route; and a forwarding to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node (switch 1), the failure message causing the alternative-route-enabled node (switch 1) to begin forwarding packets on an alternative route (see col. 3, lines 20-22, col. 4, lines 35-40, col. 2, lines 35-45).

However, Haskin et al. is silent to disclosing a network for forwarding packets from a source device to a destination device.

See figure 2B, col. 7, lines 40-53, col. 9, lines 30-45, lines 10-13, col. 7, lines 40-53, col. 13, lines 35-67, McAllister et al. discloses in the first case, for example, that the CAC processing of an intermediate node in the primary path of the the ODR SPVC reports insufficient node resources to progress the ODR SPVC through the intermediate node or a specified link thereon in which case the primary path is block. In such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node,

such as a DTL-creative node (which is node 32A in the reference network), in order to compute another path to an SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node which detects the block. This node sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node over the signaling network. The protocol allows a DTL-original node, such as the source node 32A, which receives this message to re-route the connection using a different path (see col. 9, lines 30-45); comprising:

- See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to

commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)).

- A network , figure 2B, for forwarding packets from a source device (20A) to a destination device (20B), network including a plurality of network element (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) including a plurality of nodes and connecting link, the plurality of nodes including at least one alternative-route-enable node (46) and at least one non-alternative-route-enable node (32),

wherein the at least one non-alternative-route-enable node (32) comprises:

- A storage space to store an initial route from the source device to the destination device (see routing table, figure 5, col. 13, lines 35-67);
- A mechanism to detect failure in a downstream network element in the initial route (see col. 9, lines 30-45).

Both McAllister and Haskin discloses a system of fast alternative-path automatic rerouting of labeled data packets normally routed over a predetermined primary label switched path upon failure. McAllister recognizes a network for forwarding packets from a source device to a destination device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Haskin with the teaching of McAllister to provide a network for forwarding packets from a source device to a destination device in order to reduce the probability of packet loss in a network.

7. In the claim 18, see figures 2, 3, Haskin et al. discloses a network system including of network element including a plurality of nodes (switches 1-7) and connecting links, the plurality of nodes including at least one alternative-route-enabled node (switch 1) and at least one non-alternative-route-enabled node (switch 3 or 5), wherein the at least one-non-alternative-route-enabled node (switch 3 or 5) comprises: a mechanism to detect failure in a downstream network element in the initial route; and a forwarding to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node (switch 1), the failure message causing the alternative-route-enabled node (switch 1) to begin forwarding packets on an alternative route (see col. 3, lines 20-22, col. 4, lines 35-40, col. 2, lines 35-45).

However, Haskin et al. is silent to disclosing a network for forwarding packets from a source device to a destination device.

See figure 2B, col. 7, lines 40-53, col. 9, lines 30-45, lines 10-13, col. 7, lines 40-53, col. 13, lines 35-67, McAllister et al. discloses in the first case, for example, that the CAC processing of an intermediate node in the primary path of the the ODR SPVC reports insufficient node resources to progress the ODR SPVC through the intermediate node or a specified link thereon in which case the primary path is block. In such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node, such as a DTL-creative node (which is node 32A in the reference network), in order to compute another path to an SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node which detects the block. This node sends a

signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node over the signaling network. The protocol allows a DTL-original node, such as the source node 32A, which receives this message to re-route the connection using a different path (see col. 9, lines 30-45); comprising:

- See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)).

- A network , figure 2B, for forwarding packets from a source device (20A) to a destination device (20B), network including a plurality of network element (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) including a plurality of nodes and connecting link, the plurality of nodes including at least one alternative-route-enable node (46) and at least one non-alternative-route-enable node (32),

wherein the at least one non-alternative-route-enable node (32) comprises:

- A storage space to store an initial route from the source device to the destination device (see routing table, figure 5, col. 13, lines 35-67);
- A mechanism to detect failure in a downstream network element in the initial route (see col. 9, lines 30-45).

Both McAllister and Haskin discloses a system of fast alternative-path automatic rerouting of labeled data packets normally routed over a predetermined primary label switched path upon failure. McAllister recognizes a network for forwarding packets from a source device to a destination device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Haskin with the teaching of McAllister to provide a network for forwarding packets from a source device to a destination device in order to reduce the probability of packet loss in a network.

8. In the claim 24, see figures 2, 3, Haskin et al. discloses a network system including of network element including a plurality of nodes (switches 1-7) and connecting links, the plurality of nodes including at least one alternative-route-enabled node (switch 1) and at least one non-alternative-route-enabled node (switch 3 or 5),

wherein the at least one-non-alternative-route-enabled node (switch 3 or 5) comprises: a mechanism to detect failure in a downstream network element in the initial route; and a forwarding to automatically forward a failure message upstream along the initial route to an alternative-route-enabled node (switch 1), the failure message causing the alternative-route-enabled node (switch 1) to begin forwarding packets on an alternative route (see col. 3, lines 20-22, col. 4, lines 35-40, col. 2, lines 35-45).

However, Haskin et al. is silent to disclosing a network for forwarding packets from a source device to a destination device.

See figure 2B, col. 7, lines 40-53, col. 9, lines 30-45, lines 10-13, col. 7, lines 40-53, col. 13, lines 35-67, McAllister et al. discloses in the first case, for example, that the CAC processing of an intermediate node in the primary path of the the ODR SPVC reports insufficient node resources to progress the ODR SPVC through the intermediate node or a specified link thereon in which case the primary path is block. In such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node, such as a DTL-creative node (which is node 32A in the reference network), in order to compute another path to an SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node which detects the block. This node sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node over the signaling network. The protocol allows a DTL-original node, such as the source node 32A, which receives this message to re-route the connection using a different path (see col. 9, lines 30-45); comprising:

- See Figure 2B, MCALLISTER et al. discloses or suggest a plurality of nodes including at least one alternative-route-enabled node (32A, source node) and at least one non-alternative-route-enable node (32B, node) (see col. 9, lines 34-45, in such circumstances, the P-NNI signaling protocol provides a crankback procedure wherein a connection request which is blocked along a selected path is rolled back to a prior node such as a DTL-creating node (which is node 32A in the reference network), in order to compute another path to SPVC destination endpoint. The P-NNI crankback procedure is initiated by the network node (32 B) which detects the block. This node (32 B) sends a signal indicative of a blocked path, such as a connection clearing message having a crankback IE, back to the source node (32 A) over the signaling network. The protocol allows a DTL-originating node, such as the source node 32A, which receives this message to re-route the connection using a different path) (see col. 10, lines 37-44, if parallel links exist in the area of the link failure, the appropriate node's call processing means selects a link other than the failed link. The node (32B) attempts to commission its cross-connect to ensure the ODR SPVC traverse this new link as it is signaled to the next node in the primary path. If this re-route fails, the connection is cranked back to the source node (32A)).
- A network , figure 2B, for forwarding packets from a source device (20A) to a destination device (20B), network including a plurality of network element (32A, 32B, 32C, 32D, 32E, 32F, 32G, 46) including a plurality of nodes and connecting

link, the plurality of nodes including at least one alternative-route-enable node (46) and at least one non-alternative-route-enable node (32),

wherein the at least one non-alternative-route-enable node (32) comprises:

- A storage space to store an initial route from the source device to the destination device (see routing table, figure 5, col. 13, lines 35-67);
- A mechanism to detect failure in a downstream network element in the initial route (see col. 9, lines 30-45).

Both McAllister and Haskin discloses a system of fast alternative-path automatic rerouting of labeled data packets normally routed over a predetermined primary label switched path upon failure. McAllister recognizes a network for forwarding packets from a source device to a destination device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Haskin with the teaching of McAllister to provide a network for forwarding packets from a source device to a destination device in order to reduce the probability of packet loss in a network.

9. In the claim 2, McAllister et al. discloses the network is a connection-oriented network with a plurality of established initial routes (primary paths) (see col. 9, lines 48-67).

10. In the claim 3, McAllister et al. discloses the plurality of nodes includes a label-switched router (see col. 3, line 25).

11. In the claim 4, McAllister et al. discloses the alternative route does not include the downstream network element in the initial route (see col. 9, lines 35-43).

12. In the claims 6, 21 , McAllister et al. discloses a mechanism to detect failure sends communication packets to downstream nodes at regular intervals (see col. 10, lines 25-30).

13. In the claim 9, McAllister et al. discloses determining a short path from the destination device to the source device within the network (see col. 8, lines 5-8); refining the path according to administrative constraints (see col. 8, lines 10-18); and establishing the path as the initial route (primary path) (see col. 8, lines 10-18).

14. In the claim 11, McAllister et al. discloses determining a shortest route from a node preceding the failed element (32) to the destination device (20B) within the network (see col. 8, lines 5-8); refining the route to exclude the failed element on the initial route; and establishing the alternative route for forwarding packets (see col. 9, lines 35-43).

15. In the claim 12, McAllister et al. discloses detecting a failure is conducted locally by a node (32) preceding the failed element without requiring notification of a master server (46) or an ingress node (see col. 9, lines 30-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 15, 16, 17, 10, 13, 19, 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined system (Haskin – McAllister) in view of Rexford (U.S.Patent No. 6,633,544 B1).

In the claims 17, 10, 13, 19, 20, 21, the combined system (Haskin – McAllister) discloses the limitation of claim 8 above. McAllister discloses identifying a plurality of nodes associated with the failed element according to network configuration information; generating the alternative route excluding the failed element and the plurality of nodes; establishing the alternative route (see McAllister, col. 9, lines 30-45).

However, the combined system (Haskin – McAllister) is silent to discloses reserving bandwidth on the initial route.

See col. 16, lines 15-22, Rexford discloses reserving bandwidth available on the initial route (see col. 16, lines 15-22).

Both Haskin, McAllister and Rexford are directed to routing table which including primary path and alternate path (using when the link failed). Rexford et al. recognizes determining the alternative route comprises checking bandwidth allocation. Hence, with the teaching of Rexford, it would have been obvious to one of ordinary skill in the art to modify the combined system (Haskin – McAllister) to check bandwidth allocation on the alternative route in order to guarantee the bandwidth.

17. In the claim 15, Rexford et al. discloses the determining the alternative route comprises checking bandwidth allocation (see col. 16, lines 15-22).

18. In the claim 16, Rexford et al. discloses checking bandwidth allocation comprises dynamically balancing capacity of nodes and links (see col. 5, lines 34-35).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ajit Patel
Primary Examiner

01/5/06